RNA analysis of HLA alleles

Stellingen

behorend bij dit proefschrift

RNA analysis of HLA alleles: tidings from the messenger

Kevin Gerritsen

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1. HLA RNA-SBT methods are a straightforward approach for the identification of full-length allele polymorphism based on mRNA templates to be able to define the relevance of extended polymorphism (this thesis).

2. Since serological typing is no longer the first method of choice and might not even be available in laboratories, aberrant HLA expression levels remain unnoticed (this thesis).

3. Splice variation among HLA alleles is highly underestimated. This increases the risk for a synonymous nucleotide substitution to be accepted for a stem cell transplantation, with no knowledge about the effect of this substitution on splicing and/or expression levels. Splice variants affect the expression levels and influence the stem cell donor selection (this thesis).

4. With the multiple regulatory mechanism influencing the splicing process, one can predict that the high level of polymorphism of HLA affect pre-mRNA splicing (this thesis).

5. A man dies because his body has rejected a heart transplant; a woman is crippled by rheumatoid arthritis; a child goes into a coma that is brought on by cerebral malaria. These three clinical situations are as diverse as can be, yet all have one thing in common: the cause of all of them involves the HLA system (adapted from J. Klein, The New England Journal of Medicine, 2000).

6. The differential inclusion and exclusion of exonic sequences through alternative splicing is responsible for increasing the number of proteins encoded by the genes (T.W. Nilsen, Nature, 2010).

7. Stem cell transplantation outcome is influenced by MHC polymorphism in regions located outside the classical HLA genes, however, many of these variations remain undetected with conventional HLA typing strategies (E. Petersdorf, Blood, 2013)

8. Where next for Genetics and Genomics? Of course generating more data, but this time I don't just want it from one (albeit mildly interesting) species. I want it from all of them (C. Tyler-Smith, PLOS Biology, 2015)

9. Everything not saved will be lost (Nintendo "Quit Screen" message)

10. Science, let's do it like they do on the Discovery Channel (J. Pop)

11. Science never solves a problem without creating ten more (G.B. Shaw).